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EXAMINER

BOUTAH, ALINA A

ART UNIT

PAPER NUMBER

2143

DATE MAILED: 11/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/592,486

Applicant(s)

LOWERY ET AL.

Examiner

Alina N Boutah

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-52 is/are pending in the application.
- 4a) Of the above claim(s) 45-52 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 9/3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

This action is in response to applicant's amendment filed May 27, 2004. Claims 1-4, and 6-44 are pending in the present application.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 4, 2004 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 6-8, 11-13, 15-23, 30-33, 35, 37-44 rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,023,722 issued to Colyer in view of USPN 6,445,680 issued to Moyal.

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(Amended) Regarding claim 1, Colyer teaches a method for data processing comprising:
receiving a data request at a data center, the request received from a client computer requesting data (figures 1 and 3; col. 6, lines 26-28);

determining a state associated with the request to send data to the client computer (figure 3; col. 2, lines 33-59);

assigning a priority to the state request according to a state associated with the request and according to priority criteria associated with the state (figures 2 and 3; col. 6, line 64 to col. 7, line 18);

automatically adjusting the priority criteria (col. 6, line 64 to col. 7, line 18);

queuing the request as a function of the priority associated with the request (figures 1 and 2, and 3); and

retrieving the requested data from an origin server (col. 6, lines 45-53).

However, Colyer fails to teach dynamically updating the priority of the request to send data to the client computer in response to the adjusted priority criteria. Moyal teaches dynamically updating a priority queue of a requested to send data to a client computer in response to an adjusted priority criteria (figure 2B, col. 3, lines 30-40). At the time the invention was made, one of ordinary skill in the art would have been motivated to dynamically update a priority queue in response to a change of a state in order to process the queue with highest priority quickly, thus maximizing the data processing efficiency.

(Amended) Regarding claim 6, Colyer teaches the method for data processing according to claim 1 further comprising communicating alternate content to a remote computer associated

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with the request the alternate content comprising a status page, the status page comprising an automatic re-submission time for re-issuing the request (col. 2, lines 33-59; col. 3, lines 31-48).

(Amended) Regarding claim 7, Colyer teaches the method for data processing according to claim 6, wherein the alternate content comprises the status page and wherein the status page is communicated when the load at the origin server exceeds a predetermined threshold (col. 3, lines 31-48; col. 7, lines 19-31).

Regarding claim 8, Colyer teaches the method for data processing according to claim 6, wherein communicating the alternate content comprises:

associating a queue delay time with the request (figures 1-3; col. 3, lines 3-7, lines 50-58);

determining whether the queue delay time exceeds a threshold (col. 3, lines 3-7, lines 50-58);

generating the alternate content as a function of predetermined criteria associated with the origin server when the queue delay time exceeds the threshold (col. 3, lines 31-48; col. 7, lines 19-31); and

returning the alternate content to the remote computer (col. 3, lines 31-48; col. 7, lines 19-31).

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Regarding claim 11, Colyer teaches the method for data processing according to claim 8, wherein generating the alternate content further comprises generating the alternate based on the queue delay time and the predetermined criteria (col. 3, lines 31-48; col. 7, lines 19-31).

Regarding claim 12, Colyer teaches the method for data processing according to claim 8, wherein the predetermined criteria comprises information associated with the request (col. 3, lines 31-48; col. 7, lines 19-31).

Regarding claim 13, Colyer teaches the method for data processing according to claim 8, wherein the predetermined criteria comprises external information associated with a user associated with the request (col. 3, lines 31-48; col. 7, lines 19-31).

Regarding claim 15, Colyer teaches the method for data processing according to claim 6, wherein the alternate content comprises the status page and further including resubmitting the data request to the data center by a browser to update the status page (col. 3, lines 30-45).

Regarding claim 16, Colyer teaches the method for data processing according to claim 15, wherein the resubmitting the data request is performed automatically by the browser (col. 6, lines 26-44).

Regarding claim 17, Colyer teaches the method for data processing according to claim 1 wherein assigning the priority to the request comprises determining whether the request is

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prioritizable, and wherein the priority is a first priority when the request is non-prioritizable and wherein the priority is a second priority when the request is prioritizable (col. 7, lines 1-18).

Regarding claim 18, Coyler teaches the method for data processing according to claim 17, wherein the first priority is a default priority and wherein the second priority is determined as a function of the data requested by the data request (col. 7, lines 1-18).

Regarding claim 19, Coyler teaches the method for data processing according to claim 1 further comprising determining the load on an origin server by comparing a load metric associated with the origin server to a predetermined threshold (col. 7, lines 19-30).

Regarding claim 20, Coyler teaches the method for data processing according to claim 19, wherein the load metric comprises the number of requests being handled by the origin server (col. 7, lines 19-30).

Regarding claim 21, Coyler teaches the method for data processing according to claim 19, wherein the load metric comprises the number of network connections being supported by the origin server (col. 7, lines 19-39).

Regarding claim 22, Coyler teaches the method for data processing according to claim 19, wherein the load metric comprises the delay associated with retrieving a predetermined web page from the origin server (col. 2, lines 33-59).

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Regarding claim 23, Coyler teaches the method for data processing according to claim 1, wherein the requests is first request and wherein queuing the request comprises:

storing the first request in a queue associated with the data center, the queue having therein a plurality of second requests distinct from the first request, each of the second requests having a respective priority associated therewith (figures 1 and 2);

sorting the queue as a function of the respective priority associated with the first request and each of the second requests (col. 7, lines 1-18); and

wherein retrieving the requested data comprises: processing the highest priority request in the queue by the origin server (col. 7, lines 1-18).

Claim 30 is similar to claim 1 therefore is rejected under the same rationale.

Regarding claim 31, Colyer teaches the method for dynamic flow control according to claim 30 further comprising determining a load at the protected resource, and wherein associating a priority with the data request comprises associating the priority with the data request when the load at the protected resource exceeds a predetermined threshold and wherein queuing the data request comprises queuing the data request when the load at the protected resource exceeds the predetermined threshold (col. 3, lines 30-58; col. 6, line 64 – col. 7, line 30).

Regarding claim 32, Colyer teaches the method for dynamic flow control according to claim 31 further comprising indicating status information to be returned to a remote computer associated with the data request (col. 3, lines 31-48).

Regarding claim 33, Colyer teaches the method for dynamic flow control according to claim 31 further comprising indicating alternate content to be returned to a remote computer associated with the data request (col. 3, lines 31-48).

Regarding claim 35, Colyer teaches the method for dynamic flow control according to claim 32, wherein the status information comprises a status web page and wherein indicating status information comprises selecting the status page based on priority criteria associated with the protected resource (col. 3, lines 30-45).

Regarding claim 36, Colyer teaches the method for dynamic flow control according to claim 35, further comprising resubmitting the data request after a predetermine time interval to the flow control server (col. 3, lines 30-45).

Regarding claim 37, Colyer teaches the method for dynamic flow control according to claim 36, wherein resubmitting the data request is performed automatically (col. 6, lines 26-44).

Regarding claim 38, Colyer teaches the method for dynamic flow control according to claim 35 further comprising delaying communication of the status page indication for a

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predetermined time interval based on the priority criteria (figures 1-3; col. 3, lines 3-7, lines 50-58).

Regarding claim 39, Colyer teaches the method for dynamic flow control according to claim 38, wherein delaying communication of the status page comprises delaying communication of the status page indication based on an expected delay associated with the protected resource (figures 1-3; col. 3, lines 3-7, lines 50-58)

Regarding claim 40, Colyer teaches the method for dynamic flow control according to claim 31, wherein receiving the data request comprises receiving the data request from a flow controlled device (figure 1).

Regarding claim 41, Colyer teaches the method for dynamic flow control according to claim 31, wherein retrieving the data requested by the data request comprises:

removing at least one prioritized data request from the queue when the load at the protected resource is below the predetermined threshold (col. 3, lines 33-45; col. 7, lines 19;31);
communicating the prioritized data requests to the protected resource (figures 2 and 3) ;
retrieving the requested data from the protected resource (col. 6, lines 45-53); and
communicating the requested data to a flow controlled device associated with the data request (figures 1-3).

Regarding claim 42, Colyer teaches the method for dynamic flow control according to claim 41, wherein removing at least one prioritized data request comprises removing the highest priority data request (col. 3, lines 33-45; col. 7, lines 19-31).

Regarding claim 43, the method for dynamic flow control according to claim 41, wherein associating the priority with the request comprises determining whether the request is prioritizable, and wherein the priority is a first priority when the request is non-prioritizable and wherein the priority is a second priority when the request is prioritizable (col. 7, lines 1-18).

Regarding claim 44, the method for data processing according to claim 43, wherein the first is a default priority and wherein the second priority is determined as a function of the request (col. 7, lines 1-18).

Claims 2-4, 9-10, 25-28, 34, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Colyer in view of Moyal in further view of USPN 6,578,073 issued to Starnes et al (hereby Starnes).

Regarding claim 2, Colyer teaches the method for data processing according to claim 1, wherein the data center comprises a flow control server (figure 1, no. 31) and a web server (figure 1, no. 3). However, Colyer fails to teach the data center comprising a cache server. Starnes teaches a data center comprising a cache server (figure 2, no. 208; abstract; col. 6, lines 30-40). At the time the invention was made, one of ordinary skill in the art would have been

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motivated to comprise a cache server in order to provide storage for content that was previously requested, thus provides rapid access to the data and improving the data processing efficiency.

Regarding claim 3, Colyer teaches the method for data processing according to claim 1 further comprising: determining a load associated with the origin server (col. 3, lines 33-45); and granting and denying permission from the flow control server to retrieve data when the load associated with the origin server is above or below a threshold (col. 3, lines 33-45; col. 7, lines 19-31). However, Colyer does not teach: controlling at a flow control server retrieval of data from the origin server by a cache server; granting permission from the flow control server to the cache server to retrieve data when the load associated with the origin server is below a threshold; and denying permission from the flow control server to the cache server to retrieve data when the load associated with the origin server is above the threshold.

Starnes teaches: controlling at a flow control server retrieval of data from the origin server by a cache server (figures 1 and 2); granting permission from the flow control server to the cache server to retrieve data when the load associated with the origin server is below a threshold (figures 3A and 3B; col. 9, lines 6-13); and denying permission from the flow control server to the cache server to retrieve data when the load associated with the origin server is above the threshold (figures 3A and 3B; col. 9, lines 6-13). At the time the invention was made, one of ordinary skill in the art would have been motivated to combine the teaching of Starnes with the teaching of Colyer in order to provide rapid access to the data, thus improving the data processing efficiency.

Regarding claim 4, Colyer teaches the method for data processing according to claim 3, wherein the threshold is determined as a function of the load of the origin server (col. 3, lines 33-45; col. 7, lines 19-31).

Regarding claim 9, Colyer teaches the method for data processing according to claim 8, wherein the requested is generated at a client computer remote from the data center (figure 1). However, Colyer fails to teach generating the alternate content comprising selecting the alternate content as a function of the bandwidth available to the client computer. Starnes teaches generating the alternate content comprising selecting the alternate content as a function of the bandwidth available to the client computer (col. 4, lines 20-30). At the time the invention was made, one of ordinary skill in the art would have been motivated to select the alternate content as a function of the bandwidth available to the client computer in order to provide rapid access to the data, thus improving the data processing efficiency.

Regarding claim 10, Colyer fails to teach the method for data processing according to claim 9, wherein generating the alternate content further comprises determining the amount of bandwidth available to the client computer, wherein the amount of bandwidth comprises one of high-bandwidth, medium-bandwidth and low-bandwidth. Starnes teaches generating the alternate content further comprising determining the amount of bandwidth available to the client computer, wherein the amount of bandwidth comprises one of high-bandwidth, medium-bandwidth and low-bandwidth (col. 4, lines 20-30). At the time the invention was made, one of ordinary skill in the art would have been motivated to combine the teaching of Starnes with the

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teaching of Colyer in order to provide rapid access to the data, thus improving the data processing efficiency.

(Amended) Regarding claim 25, Colyer teaches a system for dynamic flow control comprising:

receiving a request for content and retrieve content from an origin server in response thereto, the request received from a client computer requesting the content (figures 1 and 3); and

a flow control server having an associated queue and coupled to the cache server, the flow control server operable to:

determining a state associated with the request to send data to the client computer (figures 1 and 3);

assign a priority to the request according to the state associated with the request and according to priority criteria associated with the state (figure 2; col. 6, line 64 to col. 7, line 18);

automatically adjusting the priority criteria (col. 6, line 64 to col. 7, line 18);

store the prioritized request in the queue as a function of the priority associated with the request (figures 1 and 2, and 3); and

regulate the retrieval of content from the origin server (col. 6, lines 45-53).

However, Colyer fails to expressly teach the dynamic flow control comprising a cache server operable to receive a request for content and retrieve content from an origin server in response thereto; and the flow control server operable to regulate the retrieval of content from the origin server by the cache server.

Starnes teaches the dynamic flow control comprising a cache server operable to receive a request for content and retrieve content from an origin server in response thereto (figure 1); and the flow control server being operable to regulate the retrieval of content from the origin server by the cache server (figure 2).

Colyer and Starnes fail teach dynamically updating the priority in response to a change of the state. Moyal teaches dynamically updating a priority queue in response to a change of a state (figure 2B, col. 3, lines 30-40).

At the time the invention was made, one of ordinary skill in the art would have been motivated to combine the teaching of Starnes with the teaching of Colyer and Moyal in order to provide rapid access to the data, thus improving the data processing efficiency.

Regarding claim 26, Colyer fails to teach the system for dynamic flow control according to claim 25, wherein the cache server is further operable to request permission from the flow control server to retrieve content from the origin server. Starnes teaches the cache server being operable to request permission from the flow control server to retrieve content from the origin server (figures 3A and 3B; col. 9, lines 6-13). At the time the invention was made, one of ordinary skill in the art would have been motivated to combine the teaching of Starnes with the teaching of Colyer in order to provide rapid access to the data, thus improving the data processing efficiency.

Regarding claim 27, Colyer teaches the system for dynamic flow control according to claim 25, wherein the flow control sever is further operable to associate a priority with the

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request based on the content requested by the request and determine a processing load associated with the origin server (figure 2; col. 6, line 64 to col. 7, line 18).

Regarding claim 28, Colyer teaches the system for dynamic flow control according to claim 25, wherein the flow control server is further operable to associate a priority with the request based on external information associated with the request (figure 2; col. 6, line 64 to col. 7, line 18).

Regarding claim 34, Colyer fails to teach the dynamic flow control according to claim 33, further comprising determining the alternate content as a function of the bandwidth associated with the remote computer. Starnes teaches generating the alternate content comprising selecting the alternate content as a function of the bandwidth available to the client computer (col. 4, lines 20-30). At the time the invention was made, one of ordinary skill in the art would have been motivated to select the alternate content as a function of the bandwidth available to the client computer in order to provide rapid access to the data, thus improving the data processing efficiency.

Claims 14 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Colyer in view of Moyal, in further view of USPN 5,582,812 issued to Reeder.

Regarding claims 14 and 29, Colyer and Moyal fail to teach the method for data processing according to claim 13, wherein the external information comprises historical

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shopping information associated with the user associated with the request. Reeder teaches the external information comprising historical shopping information associated with the user associated with the request (col. 15, lines 14-23). At the time the invention was made, one of ordinary skill in the art would have been motivated to combine the teaching of Reed with the teachings of Colyer and Moyal in order to provide rapid access to billing information data, thus improving customer service.

Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Colyer in view of Moyal, in further view of USPN 6,304,913 issued to Rune.

(Amended) Regarding claim 24, Colyer fails to teach the method for data processing according to claim 1, wherein the data center comprises a plurality of data centers and wherein receiving the request comprises: determining a network distance between the client computer and at least one of the data centers; determining the closest data center to the client computer; resolving a destination address associated with the request to the closest data center; and routing the request to the closet data center.

Rune teaches determining a network distance between a client computer and at least one of the data centers (Abstract); determining the closest data center to the client computer (Abstract); resolving a destination address associated with the request to the closest data center (Abstract); and routing the request to the closet data center (Abstract). At the time the invention was made, one of ordinary skill in the art would have been motivated to combine the teaching of

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Rune with the teaching of Colyer in order to allow requests to be sent to the closest data center, thus improving the response time.

Response to Arguments

Applicant's arguments filed May 27, 2004 have been fully considered but they are not persuasive.

Applicant argues that the Colyer-Moyal combination fails to teach “dynamically updating the priority of the request to send data to the client computer in response to the adjusted priority criteria.” The Patent Office respectfully disagrees. As cited above, figures 2 and 3; col. 6, line 64 to col. 7, line 18 of Colyer teaches assigning a priority to a request that are stored in a queue (interpreted as state). The priority is based on criteria such as textual information or graphical data. The priority is given to whichever takes less time to process, therefore the criteria is automatically adjusted. Moyal teaches dynamically updating a priority queue of a requested to send data to a client computer (figure 2B, col. 3, lines 30-40). For the reason above, the Colyer-Moyal combination does teach the claimed limitation. Therefore, the rejection is sustained.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alina N Boutah whose telephone number is 571-272-3908. The examiner can normally be reached on Monday-Thursday (9:00 am - 7:00 pm).

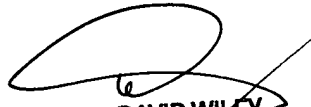
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A Wiley can be reached on 571-272-3923. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



ANB



DAVID WILEY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100